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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/088,559

08/05/2002

Joseph Child

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08/23/2005

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EXAMINER

PAYNE, DAVID C

ART UNIT

PAPER NUMBER

2638

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/088,559	<b>Applicant(s)</b> CHILD, JOSEPH	
	<b>Examiner</b> David C. Payne	<b>Art Unit</b> 2638	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2002.  
2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-36 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05 August 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 12, 15-21, 30-33 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Charles Gregory Amadon et al. WO 00/04660 A3 (Amadon).

Re claim 1, 12, 16, Amadon disclosed

A communication network comprising a plurality of optical stations adapted to be coupled to each other by free space optical links, a first of said optical stations being a base station adapted to do to be coupled to (a) stations other than said optical stations and (b) at least one of the plural optical stations, each of the plural optical stations having an identification and being arranged to couple optical messages to others of the optical stations via the optical links, each of the messages including a data portion and an identifier for a destination station of the message, each of the optical stations being arranged for (a) determining if the destination station identifier in a message matches the identification of the optical station receiving the message, and (b) responding to the data portion of the message in response to the identifier being the identification of that particular station, others of the optical stations being arranged for (a) determining if the destination station identifier in a message matches the identification of the optical station receiving the message, (b) responding to the data portion of the message in response to the identifier being the identification for that particular station, and (c) relaying the message toward the destination station in response to the identifier being different from the identification for that particular station, **see e.g., page 5, line 18 – page 6, line 24;**

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**page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

Re claims 2, 3, 18, 19 Amadon disclosed

wherein the messages are arranged in packets, each of the packets including overhead bits indicating a packet type and the destination station identifier, **see e.g., page 5, line 18 – page 6, line 24; page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

Re claims 4 and 20, Amadon disclosed

wherein at least one of the plural optical stations is a relay station for (a) detecting the destination station identifier in messages that the relay station receives, and (b) relaying the message toward the destination station in response to the detected identifier, the relay station being incapable of responding to the data portion of the message, **see e.g., page 5, line 18 – page 6, line 24; page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

Re claims 5 and 21, Amadon disclosed

wherein at least some of the plural optical stations arranged for performing (a), (b) and (c) are end user stations, **see e.g., page 5, line 18 – page 6, line 24; page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

Re claims 15 and 30, Amadon disclosed

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wherein each optical station includes a receive array having many avalanche photodiodes, **see e.g., page 5, line 18 – page 6, line 24; page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

Re claim 17, 31, Amadon disclosed

An optical station for use in a communication network having a plurality of the optical stations, the optical stations being adapted to be coupled to each other by free space optical links, each of the plural optical stations having an identifier, the optical station comprising a receiver of free space optical energy messages and an emitter of free space optical energy messages, each of the messages including a data portion and an identifier for a destination station of the message, the optical station being arranged for (a) determining if the destination station identifier in a message matches the identification of the optical station, (b) responding to the data portion of the message in response to the identifier being the identification for the station, and (c) relaying the message toward the destination station in response to the identifier being different from the identification for the station, **see e.g., page 5, line 18 – page 6, line 24; page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

Re claim 32, 33, and 36 Amadon disclosed

An optical station for use in a communication network having a plurality of optical stations, the optical stations being adapted to be coupled to each other by free space optical links, the optical station comprising a receiver of free space optical energy messages and a transmitter of free space optical energy messages, the receiver including a receive array having many optical detector element areas each having an associated beam, the transmitter including a transmit array including many optical emitter elements each having an associated beam, the beam of a detector area corresponding with the beam of an emitter element of an originating optical station of the network, an optical arrangement associated with the receive and transmit arrays, the optical arrangement and the arrays being such

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that beams associated with different elements of each array can be coupled with different stations of the network, the receive array including many avalanche photodiodes, **see e.g., page 5, line 18 – page 6, line 24; page 7, lines 7-19; page 17, lines 23 – page 18, line 2; page 26, lines 7-27; page 39, line 24 – page 40, line 3; Figures 3B, 11, 12, 15 and 18.**

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charles Gregory Amadon et al. WO 00/04660 A3 (Amadon) in view of Freitas et al. US 5321542 A (Freitas).

Re claims 6 and 22,

Amadon disclosed the aforementioned invention but does not disclose wherein some of the optical stations are mobile. Freitas disclosed a free space communication system with mobile units (10 of Figure 1a). It would have been obvious to one of ordinary skill in the art at the time of invention to include mobile units in the Amadon invention so that mobile users could communicate information with fixed information points such as ISP pops.

Claims 7-11, 13, 14, 23-29, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charles Gregory Amadon et al. WO 00/04660 A3 (Amadon) in view of ERICSSON INC WO 99/52231 (ERICSSON).

Re claims 7, 8, 9, 23, 24, 25, 34, and 35,

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Amadon disclosed the aforementioned invention but does not disclose wherein different wavelengths are used in the beams. ERICCSO<sup>N</sup> disclosed using different wavelengths in the beams, **page 10, lines 16 –19**. It would have been obvious to one of ordinary skill in the art at the time of invention to use different wavelengths for stations thereby segregating traffic for individual stations and minimizing security and interference problems.

Re claims 10, 11, 26 and 27,

Amadon disclosed the aforementioned invention but does not disclose wherein any stations may emit/receive plural beams. ERICCSO<sup>N</sup> disclosed plural beams at a transmitter via a WDM laser, **page 8, line 5 – page 9, line 12**. It would have been obvious to one of ordinary skill in the art at the time of invention to use plural beams at a transmitter to communicate multiple streams of information to one or more destinations.

Re claims 13, 14, 28 and 29,

Amadon disclosed the aforementioned invention but does not disclose wherein beams are received in parallel or that some beams are divergent. ERICCSO<sup>N</sup> disclosed using a telescopic lens at receiver, **see e.g., page 11 lines 3-18**. It would have been obvious to one of ordinary skill in the art at the time of invention that beams naturally diverge in free space due to lack of a waveguide that reflects signals along a path and furthermore that lenses are used to collimate light into parallel rays on a detector.

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**Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
**David C. Payne**  
**Patent Examiner**  
**AU 2638**